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SUBJECT: WHY IS LAKE CHAD SHRINKING AND WHAT CAN BE DONE ABOUT IT?

REF: A. NDJAMENA 461

[1](#)B. NDJAMENA 460

[1](#)C. NDJAMENA 404

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INTERNET DISTRIBUTION.

[1](#)1. (SBU) SUMMARY: This is the third of three cables on Chad's
interest in environmental affairs. Government officials and experts
cited several reasons why Lake Chad is shrinking -- rapid population
growth, climate change and desertification, and seasonal and
cyclical rainfall patterns -- during the visit of Regional
Environmental Officer for West and Central Africa (REO) to Ndjamena
October 6-9, 2009. The Lake Chad Basin Commission has begun to look
at long-term solutions to the problem, most notably through an
18-month feasibility study of channeling water from the Oubangi
river to the Chari river (the main feeder of the lake). There will
no doubt be serious questions about the potential adverse impact
that the canal project could have on upstream users in the Central
African Republic, DRC and the Republic of Congo (Brazzaville). More
fundamentally, given the size of the populations that now depend on
the lake, it is difficult to see how the lake can be managed
sustainably over the medium to long term in the absence of a serious
agreement among Chad, Cameroon, Nigeria and Niger regulating the use
of the lake's still vast but dwindling resources. END SUMMARY.

A Vast Inland Lake in the Sahel

[1](#)2. (U) Lake Chad and the surrounding basin spans the trans-border
regions of Chad, Cameroon, Nigeria and Niger. The lake is a major
source of fresh water in the Sahel (the semi-arid band of grassland
that stretches across the African continent just south of the
Sahara), providing water for not only human and animal consumption,
but also for irrigation, agriculture and fishing activities.

[1](#)3. (U) No one disputes that Lake Chad has shrunk dramatically over
the last 45 years. In 1963, satellite imagery estimated that the
lake's surface area was approximately 25,000 square kilometers.
Experts today estimate that the lake is no more than 2,000 square
kilometers, and during extremely dry periods over the last 45 years,
the lake's surface area shrank to as little as 1,300 square
kilometers. Even so, the lake is still a vast and substantial body
of water that was roughly the size of Vermont in 1963, but is now
about half the size of Rhode Island.

[1](#)4. (SBU) While the lake's vast territory once spread over Chad,
Cameroon, Nigeria and Niger, it seems clear that the lake is
currently only a dry basin in Niger, and our interlocutors disagreed
about whether some small portion of the lake might still extend into
Nigerian territory. Some geospatial maps show that the lake's

current territory only spans Chad and Cameroon, though some islands in the lake belong to Nigeria, and the lake's waters are still widely used by Nigerian fisherman and farmers, according to Chadian officials and experts.

Why is Lake Chad Shrinking?

15. (U) During REO's October 6-9 visit to Ndjamena, government officials and experts offered several explanations for why Lake Chad is shrinking, including climate change, desertification and evaporation; cyclical rainfall patterns; and substantially increased use of water resources due to rapid population growth and farming around the lake. Secretary General Sandjima Dounia of the Ministry of Environment and Aquatic Resources stated that his ministry estimated that the Sahara desert was marching southward in Chad at the rate of 5-6 kilometers per year. Desertification was creating higher average surface temperatures at Lake Chad, which was accelerating the process of evaporation at the lake.

16. (U) Likewise, rapid population growth and a corresponding increase in agriculture activities have contributed to the lake's shrinkage. Officials from the Ministry of Environment and Aquatic Resources reported that some 22 million people rely on the waters of Lake Chad, including some 10 million Nigerians, and at least one million Chadians who use the lake as their primary source of water for human and animal consumption, irrigation, and for fishing. However, officials from the Lake Chad Basin Commission and some press reports claim that as many as 30 million people now depend on the lake's waters. Even by conservative measures, the population using the lake has tripled since 1963, as only about seven million people depended on the lake 45 years ago, according to Chaibou Mahaman, Project Director of the Lake Chad Basin Commission.

17. (U) Chadian officials' statements are largely consistent with the scholarly research on the lake. For instance, a University of Wisconsin study funded by NASA, as well as other research, has concluded that the major factors in Lake Chad's shrinkage include declining rainfall and a long drought period in the Sahel over the last 45 years; large increases in population and in agricultural and irrigation activity around the lake; and increases in surface temperatures and accelerating evaporation.

18. (SBU) Bourdannot Waguing, the Administrative and Financial Director of the Lake Chad Development Company (SODELAC), which is responsible for agriculture development on the Chadian territory around the lake, played down the significance of Chadian farming and irrigation activities as a cause of the lake's shrinkage. In his view, the lake's size is more directly dependant on seasonal rainfall patterns, and there is no direct correlation between the scale of farming activities and the size of the lake. He acknowledged, however, that in periods where the lake's waters receded, agriculture activity immediately around the lake tended to increase, as farmers moved in to plant corn, wheat, millet, beans and other vegetables in polders (geographic depressions between sand dunes that have recently been exposed by the receding lake). In addition, with ten times as many Nigerians living in the basin as Chadians, he also noted that irrigation and farming activities on the Nigerian side of the basin dwarfed those on the Chadian side, and were a much bigger drain on the lake's water resources.

What Could Be Done to Save the Lake?

19. (U) The Lake Chad Basin Commission (LCBC) is a parastatal organization founded in 1963 by Chad, Cameroon, Nigeria and Niger, and subsequently joined by the Central African Republic and Libya. One of the commission's main aims is to promote the rational and sustainable use of the basin's water resources. LCBC Project Director Mahaman told us that in October 2009, the LCBC had hired a Canadian consulting company to conduct a USD 6 million, 18-month long study on the feasibility of digging a 145 kilometer canal that would connect the Oubangi and Chari rivers. In theory, the canal would increase the water volume in the Chari River, which supplies about 70 percent of the lake's total water supply, and thereby substantially increase the amount of water flowing into the lake.

(Note: The commission's annual operating budget is less than USD 4.7 million, and the members are about USD 9.4 million in arrears on their annual dues, but the USD 6 million feasibility study is one project that has been fully funded.)

¶10. (U) The feasibility study would not only examine the potential impacts on water quality, flora and fauna in both river basins, but also address the concerns of the DRC, CAR and the Republic of Congo (Brazzaville) about the possible effects on the Oubangi's navigability and continued potential to support the development of hydroelectric dams. While the idea of building a canal could raise many logistical and practical questions for users of both the Chari and Oubangi rivers, the 18-month-long study would also look at other, less drastic ways to increase water flow into Lake Chad. One option would be to dredge or otherwise improve the flow of the Chari, which has a high volume of sand and silt that impedes water flow into the lake.

¶11. (U) While the LCBC has been seized with the issue of increasing the flow of water into the lake, it appears that there has been much less attention paid to sustainable management of the lake's existing water and fisheries resources. Representatives from both the LCBC and SODELAC told us that there are no agreements among members on the amount of agriculture and irrigation activities that can be undertaken around the lake. Likewise, there is also no agreement on fish quotas, or other mechanisms for sustainable fisheries management, and the estimated amount of annual fish catch from the lake has dramatically declined over the last 45 years. The LCBC is now receiving funding from the African Development Bank to draft a water charter that would define the use of water resources among the member countries.

COMMENT

¶12. (SBU) Embassy staff most recently visited Lake Chad late last month. Rice paddies within a few kilometers of the lake were green, but evidence of creeping desertification was overwhelming, with former paddies dry along lengthy stretches of the road, and even millet and corn -- planted where rice used to grow -- parched and shriveled as a result of this year's diminished rains. Getting to the actual lake itself requires negotiating with police, gendarmes and customs agents, all of whom are attempting to prevent smuggling (or take a cut) and monitor fishing and water quality.

¶13. (SBU) Local efforts to address the environmental issues of the lake basin will not be sufficient; only a regional approach will significantly affect the fate of Lake Chad. As for current multilateral initiatives, we believe it very unlikely that the DRC, CAR and Republic of Congo (Brazzaville) will approve the building of a canal to link the Oubangi and Chari rivers unless and until all of their concerns about the potential impact on the Oubangi river basin have been fully satisfied. In addition, with the increased populations living around Lake Chad, it is hard to see how the lake's continued shrinkage can be prevented without the countries of the basin adopting and adhering to sustainable conservation practices in water use for human and animal consumption, and in irrigation for agriculture.

END COMMENT.

NIGRO